

WHAT IS CLAIMED IS:

1. A stereolithographic resin composition comprising a photo-curable component, a sol-gel resin material having a function of causing a reversible, quick sol-gel phase transition based on temperature change, and a filler.
2. The stereolithographic resin composition of Claim 1, wherein the filler is thermally conductive.
3. The stereolithographic resin composition of Claim 1, wherein the photo-curable component includes at least one of a radically polymerizable compound and a cationic polymerizable compound.
4. The stereolithographic resin composition of Claim 3, wherein the photo-curable component is selected from the group consisting of an unsaturated carboxylic acid and salts thereof, an ester of an aliphatic polyhydric alcohol compound and an unsaturated carboxylic acid, and an amide of an aliphatic polyamine compound and an unsaturated carboxylic acid.
5. The stereolithographic resin composition of Claim 2, wherein the filler is selected from the group consisting of alumina, aluminum nitride, boron nitride and crystalline silica.
6. The stereolithographic resin composition of Claim 1, wherein the content of the filler is in the range of 50 to 400 parts by mass with respect to a total mass of 100 parts by mass

of the photo-curable component and the sol-gel resin material.

7. The stereolithographic resin composition of Claim 1, wherein the sol-gel resin material comprises a mixture of a syndiotactic polymethacrylic ester and an isotactic polymethacrylic ester.

8. The stereolithographic resin composition of Claim 1, further comprising a photopolymerization initiator.

9. The stereolithographic resin composition of Claim 8, wherein the content of the photopolymerization initiator is in the range of 0.1 to 10 parts by mass with respect to a total mass of 100 parts by mass of the photo-curable component and the sol-gel resin material.

10. The stereolithographic resin composition of Claim 1, wherein the photo-curable component comprises an ultraviolet curable resin.

11. A stereolithographic method comprising the steps of: forming a first layer of a stereolithographic resin composition, imagewise exposing the first layer to light to at least partially cure the first layer, forming a second layer of the stereolithographic resin composition on the cured first layer, imagewise exposing the second layer to light to integrate at least a portion of the second layer to be cured with a cured portion of the first layer and to form a layered product including a cured portion and an uncured portion, and removing the uncured portion from the layered product to obtain a

stereolithographically formed object,

wherein the stereolithographic resin composition comprises a photo-curable component, a sol-gel resin material having a function of causing a reversible, quick sol-gel phase transition based on temperature change, and a filler.

12. The stereolithographic method of Claim 11, wherein the filler is thermally conductive.

13. The stereolithographic method of Claim 11, wherein the photo-curable component includes at least one of a radically polymerizable compound and a cationic polymerizable compound.

14. The stereolithographic method of Claim 13, wherein the photo-curable component is selected from the group consisting of an unsaturated carboxylic acid and salts thereof, an ester of an aliphatic polyhydric alcohol compound and unsaturated carboxylic acid, and an amide of an aliphatic polyamine compound and an unsaturated carboxylic acid.

15. The stereolithographic method of Claim 12, wherein the filler is selected from the group consisting of alumina, aluminum nitride, boron nitride and crystalline silica.

16. The stereolithographic method of Claim 11, wherein the content of the filler is in the range of 50 to 400 parts by mass with respect to a total mass of 100 parts by mass of the photo-curable component and the sol-gel resin material.

17. The stereolithographic method of Claim 11, wherein the sol-gel resin material comprises a mixture of a syndiotactic

polymethacrylic ester and an isotactic polymethacrylic ester.

18. The stereolithographic method of Claim 11, wherein the stereolithographic resin composition further comprises a photopolymerization initiator.

19. The stereolithographic method of Claim 18, wherein the content of the photopolymerization initiator is in the range of 0.1 to 10 parts by mass with respect to a total mass of 100 parts by mass of the photo-curable component and the sol-gel resin material.

20. The stereolithographic method of Claim 11, wherein the photo-curable component comprises an ultraviolet-curable resin.